

“Keep Walking”: An Exercise Programme for Moderate Mobility Disability in Persons with Multiple Sclerosis (pwMS)

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Background

Following the Multiple Sclerosis (MS) guidelines (NICE 2014) we encourage persons with MS (PwMS) to exercise and on discharge from physiotherapy refer patients to Be-active Birmingham exercise schemes (beactivebirmingham.co.uk). However, PwMS with moderate disability tend not to attend at leisure centres often due to the stigma around mobility aids. PwMS who are inactive due to deconditioning or disease progression are at risk of reduced mobility. Consequently reduced mobility can result in other complications such as infection, fatigue, depression, spasticity and pain that further impair mobility. Maintaining a PwMS's mobility is crucial to maintain their well-being, function, independence and quality of life.

Aims

- Deliver a specific exercise programme to maintain the mobility in PwMS with an Expanded Disability Status Scale (EDSS) score 5.5 – 6.5.
- Transfer a hospital based physio led exercise class to a leisure centre setting to encourage participation in leisure centre facilities.



Method

- 4 MS patients with an EDSS score of 6.5 participated in a 6 week physio-led Pilot maintenance exercise class at a local leisure centre.
- 60 minute exercise class with 4 components: muscle strength, balance, co-ordination and cardiovascular fitness.

Outcome measures

Number of repetitions & level of difficulty level A,B,C,D (Otago Exercise Programme to prevent falls in Older Adults

(<http://www.acc.co.nz>)

EQ5D (your health today score 0-100) pre & post exercise.

Borg Rate of Perceived Effort 0-10

Following the Pilot:

Patient satisfaction questionnaire

Patient focus group for feedback

Results

EQ5D (your health today score 0-100) pre/post exercise

	Week1		Week 2		Week 3		Week 4		Week 5		Week 6	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post
Pt1	-	50	50	60	65	56	56	60	60	40	50	
Pt2	70	50	70	70	40	60	60	60	80	80	85	85
Pt3	60	70	60	60	70	70	80	80	80	80	80	80
Pt4	70	70	70	70	70	70	70	70	45	50	50	80

Borg Rate of Perceived Effort 0-10 (After the class)

	Week	Week	Week	Week	Week	Week	Key	Effort Walking
	1	2	3	4	5	6		
Pt1	-	5/10	7/10	5/10	7/10	5/10	1	Very Easy
Pt2	7/10	5/10	5/10	5/10	5/10	5/10	2	Easy
Pt3	3/10	3/10	3/10	3/10	5/10	3/10	3	Moderate
Pt4	4/10	4/10	2/10	3/10	5/10	3/10	4	Somewhat Hard
							5-6	Hard
							7	Very hard
							8-10	Extremely Hard

Discussion

The MS patients sustained level A in the number of repetitions and difficulty from the Otago Exercise Programme.

The EQ5D scores showed patient well-being did not worsen due to exercise.

We rated Borg scores 3-5 (moderate-hard) were acceptable for pwMs to gain cardiovascular benefit. We were wary of patients becoming fatigued if they scored >7/10 Borg scale (very hard). We had 100% attendance and 100% “very satisfied” for the pilot maintenance class.

The patient focus group indicated patients would attend an exercise class at a leisure centre instead of the hospital. The patients liked the physiotherapy staff leading the class and would not have gone to the leisure centre of their own accord. For the future we need to work collaboratively with the leisure staff and address any training needs.

Conclusion

The pilot exercise class was a success, so we continued with the exercise programme. After 6 months, all patients have maintained their mobility status and EDSS score. There are likely to be increased health and social care costs for a pwMS with an EDSS score of ≥ 7.0 , so we considered the exercise class to be a cost-effective intervention to prevent further MS disability. From our positive experience, we would recommend a maintenance exercise classes at leisure centres for pwMS with moderate mobility disability.

References

Be Active Birmingham (beactivebirmingham.co.uk)

NICE (2014) <https://www.nice.org.uk/guidance/cg186/resources/multiple-sclerosis-in-adults-management-pdf-35109816059077>

Otago Exercise Programme to Prevent Falls in Older Adults (2003)

<https://www.acc.co.nz/assets/injury-prevention/acc1162-otago-exercise-manual.pdf>